## Abstract

Title: Selected parameters of postural stability in elite sport dance group.

Objectives: The aim of this study is to evaluate selected parameters of postural stability in elite sport dancers in Czech Republic during their preparatory period and to define the relation of postural stability to body composition, equality and ability of explosive strength production of lower limbs.

Methods: The group of 10 elite sport dancers, composed of men (n=5, age=25,1±2,4 years, height=181,9±3,8 cm, weight=73,7±7,5 kg) and women (n=5, age=24±3,2 years, height=169,1±5,7 cm, weight=53,8±3,6 kg), was longitudinally observed during their preparatory period. At the beginning and on the top (national championship) postural stability, body composition and dynamic performance were evaluated. These following devices were used for testing: force plate FootScan (RScan International, Belgium), bioimpedance analyzer BIA 2000M (Datainput, Germany) and Tanita (Tanita Corporation, Japan), dynamometric force plates Kistler 8611 (Kistler, Switzerland). Results were evaluated by descriptive and inductive (paired t-test) statistics.

Results: Results showed high similarity of followed selected parameters in elite sport dancers at the beginning and also at the top of preparatory period. Postural stability was slightly impaired, but only 5 from 24 selected parameter changes were statistically relevant ($p<0,05$). In body composition we observed a change of body weight which decreased. It was mainly caused through the body fat reduction. Distribution of fluids in the body was without changes and symmetrical. In explosive strength we revealed a decrease of moderate asymmetry between lower limbs in countermovement jump. This change was statistically relevant ($p<0,05$).



Keywords: Dance sport, dance, tests, body composition, explosive strength of lower limbs